NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

HYDROLOGIC SERVICE AREA (HSA)
WFO Jackson, Mississippi

MONTHLY REPORT OF HYDROLOGIC CONDITIONS

REPORT FOR:
MONTH: **January** YEAR: **2013**

TO: Hydrometeorological Information Center, W/OH2
NOAA / National Weather Service
1325 East West Highway, Room 7230
Silver Spring, MD 20910-3283

SIGNATURE
Alan E. Gerard, Meteorologist In-Charge

DATE
02/25/2013

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☐ **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

January 2013 was another wet and warm month throughout the Hydrologic Service Area (HSA). Monthly mean temperatures at ASOS sites for the month were well above normal. Temperatures ranged from 4.5 degrees above normal at Greenwood, MS to 5.3 degrees above normal at Vicksburg/Tallulah, MS. Rainfall was also well above normal. Rainfall at ASOS sites ranged from 2.19 inches above normal at Hattiesburg, MS to 8.21 inches above normal at Vicksburg-Tallulah, MS-LA.

The year 2013 began with an upper-level trough across the southwestern states and a cold front progressing through the HSA. The front moved slowly into the Gulf of Mexico on the 2nd as the upper-level flow continued out of the southwest. Rainfall totals ranged from 1.00 to 3.00 inches across the HSA. High pressure pushed into the region at the surface bringing cooler temperatures.

With no support to move further south, the front stalled in the Central Gulf on the 3rd. The HSA had a short break from rainfall on the 3rd. From the 4th to the 5th, an upper-level low pressure center over New Mexico began moving northeast. Warm, moist southwest flow began to ride up and over the cold air at the surface bringing light rainfall to the HSA with amounts ranging from 0.25 to 0.75 inches. By the morning of the 7th, surface high pressure controlled the weather and thus no rainfall was reported across the region.

During the day of the 7th, high pressure began shifting eastward and yet another upper-level low began digging into the Southwest U.S. The upper-level low pushed into northern Mexico on the 8th tapping into very moist South Pacific Ocean moisture. During this time, the stalled surface front in the Gulf of Mexico moved north to the Texas and Louisiana coast. By the morning of the 9th, the upper low center progressed eastward across northern Mexico prompting a surface low to form along the stalled front in the Northwest Gulf of Mexico. During the day of the 9th and through much of the 10th, the stalled front along the coast moved northeastward as the upper low across Mexico began to race to the northeast toward the Ohio Valley. The

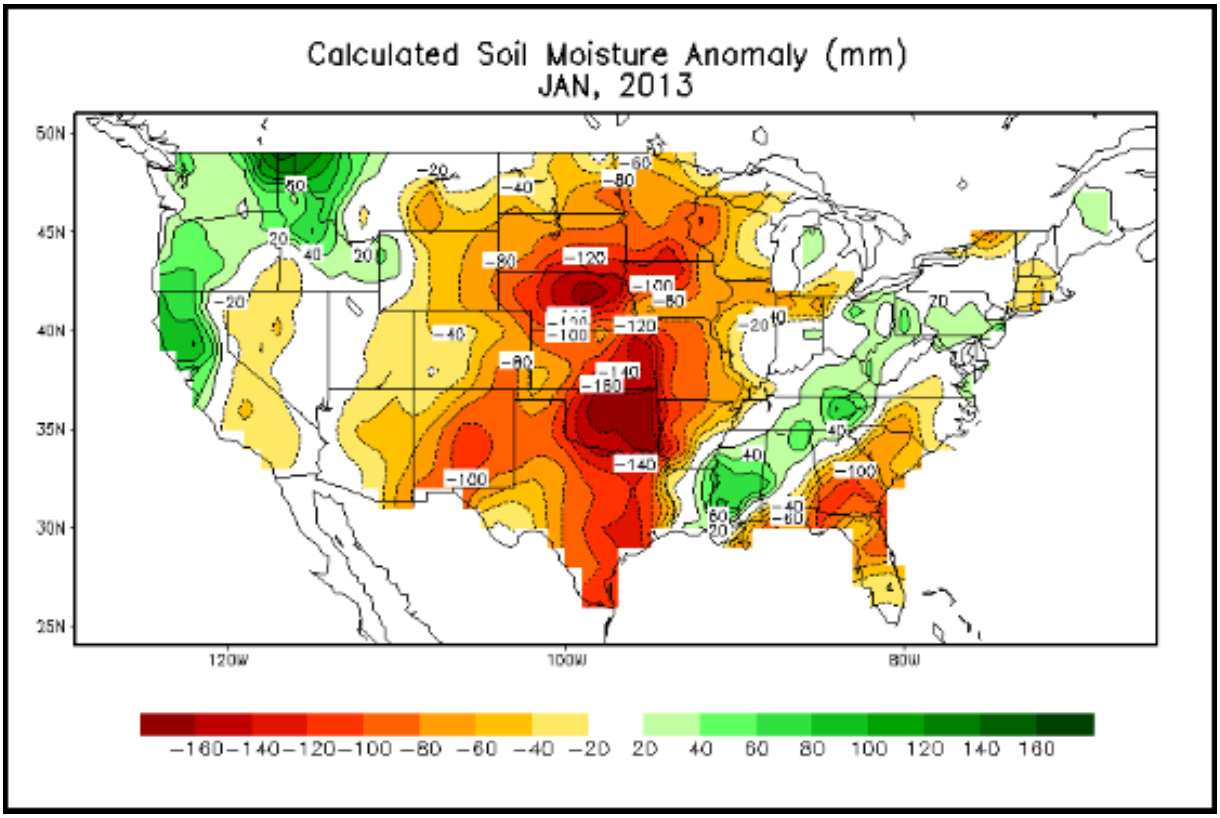
influx of tropical air brought heavy rainfall to much of Louisiana and portions of Mississippi west of I-55. Southwest Louisiana had in excess of 10.00 inches of rainfall. Rainfall ranged from 5.00 to 8.50 inches south of I-20 and east of I-55 across the HSA while areas north of I-20 in Northeast Louisiana, Southeast Arkansas, and areas in Mississippi west of I-55 had rainfall ranging from 3.00 to 5.50 inches. Rainfall along I-55 and eastward ranged from 0.50 to 1.50 inches. The heavy rainfall brought river flooding to Northeast Louisiana, Southeast Arkansas, and portions of the Yazoo River Delta. By the morning of the 11th, yet another upper-level trough had dropped into the Southwest U.S. keeping southwesterly flow aloft over the HSA. A weak front slowly drifted southeast across the region during the day on the 11th; however, by the afternoon the front had begun pulling back northward across the HSA as southerly surface flow increased ahead of another approaching cold front. Additional rainfall for the 11th ranged from 0.25 to 2.00 inches across northwestern and southeastern portions of the HSA. On the morning of the 12th, the southwest flow aloft continued to pump tropical pacific moisture into the HSA keeping unsettled conditions in place. Southerly surface return flow continued as a strong cold front continued to approach the region. On the 13th, the cold front moved across the area during the day and evening bringing a very shallow, cold airmass to the HSA. The cold air undercut mild, humid air aloft, thus setting the stage for freezing rainfall over northwest portions of the ArkLaMiss. From the 14th through the 15th, a couple episodes of moderate freezing rain accompanied by thunder occurred as temperatures hovered near or just below freezing. Ice accumulations for areas of Northeast Louisiana, Southeast Arkansas, and Mississippi north of Interstate 20 and west of Interstate 55 ranged from only a trace of ice from Warren, northwest Hinds, and Yazoo counties to a half inch of ice from Morehouse Parish, Louisiana to Chico County, Arkansas to Bolivar County, Mississippi. By the morning of the 16th, the trough over the Southwest U.S. had moved east and intensified into a closed low over Texas. As the upper low moved east on the 16th, warm southwest flow continued to ride up and over the cold air at the surface. Heavy rainfall from the 13th through the 16th ranged from 1.00 to 5.00 inches across the HSA. This produced minor to moderate river flooding across Central Mississippi and portions of East and Southeast Mississippi. Additional rainfall kept flooded rivers across Northeast Louisiana, Southeast Arkansas and the Mississippi Yazoo Delta Region from receding. Finally on the 17th, the last in a series of upper-level troughs began pushing across the HSA bringing an end to the weather pattern that had brought 9 to 10 days of rainfall. The upper-level closed low from Texas finally moved across Mississippi producing a rare accumulation of snow in much of Mississippi. Snow amounts ranged from a 0.1 inch in South Mississippi to scattered areas of 6.0 inches in northeast portions of the HSA. By the afternoon of the 17th, skies had cleared across most of the area. With the clearing skies, the snow melted away as high pressure moved in.

High pressure and cold temperatures at night continued through the 20th. On the 21st, a weak cold front had moved southward into Central Mississippi. By the morning of the 22nd, the front had reached the Mississippi Coast. No rainfall was observed with this front. High pressure remained in control through the 23rd. On the 24th, a cold front pushed into North Mississippi; however, southerly flow from the Gulf caused the front to move back to the north on the 25th. A surge of high pressure from the northeast on the 26th

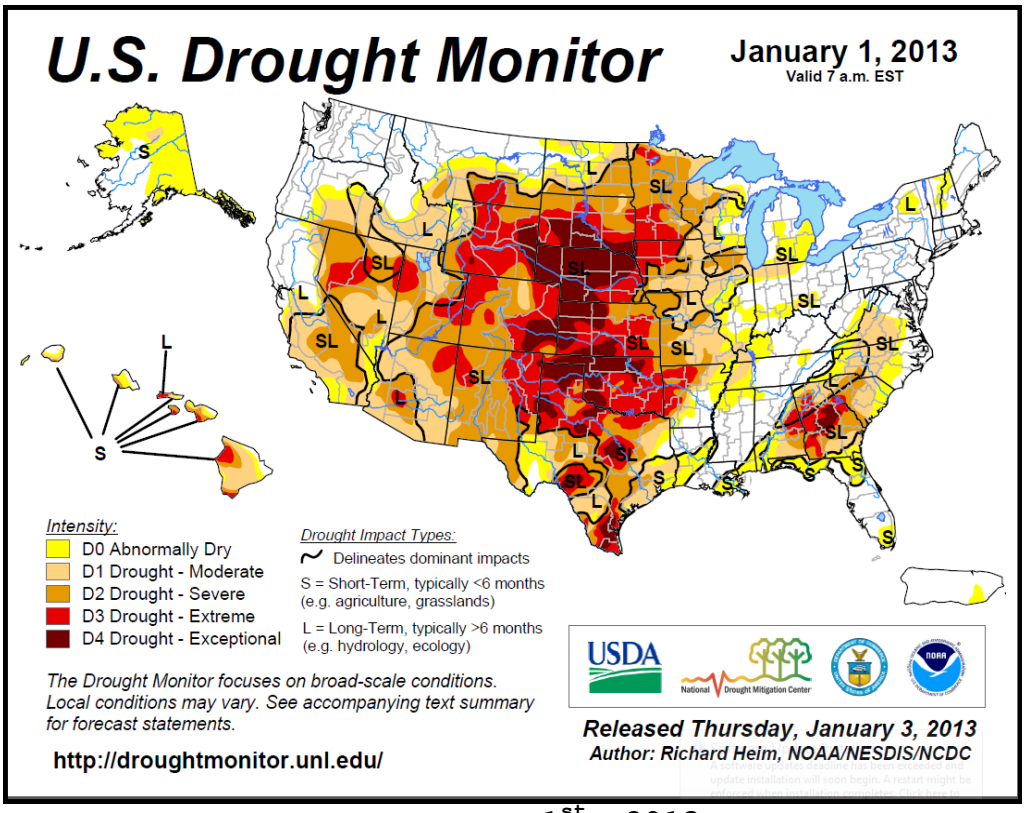
finally pushed the front to the southwest of the HSA by the end of the day. No rainfall was reported with this system. On the 27th, high pressure slowly shifted to the east allowing a return of warm, moist air to the ArkLaMiss as another upper-level trough began to deepen in the Southwest U.S. The upper-level trough began to move eastward on the 29th. A strong cold front pushed through the region during the evening hours of the 29th through the morning hours of the 30th. An EF-2 tornado touched down in West Carroll Parish, Louisiana and two other tornadoes (EF-1 and EF-0) touched down in Bolivar County, Mississippi. Numerous damaging wind reports were called in across the entire forecast areas. Rainfall from 0.50 to 3.00 inches fell across the HSA. The heaviest rain fell across northwest and southeast portions of the HSA. High pressure built into the region late on the 30th and remained in control of the weather through the end of the month.

River and Soil Conditions...

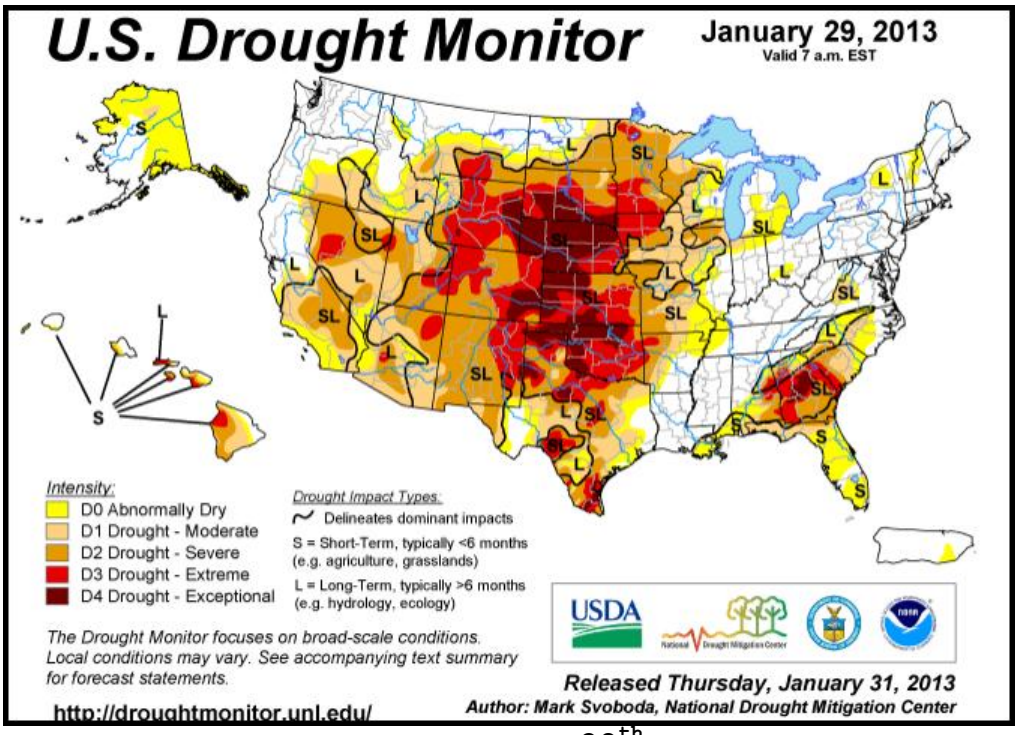
Soil Moisture Map:



Drought Comparison to prior month:

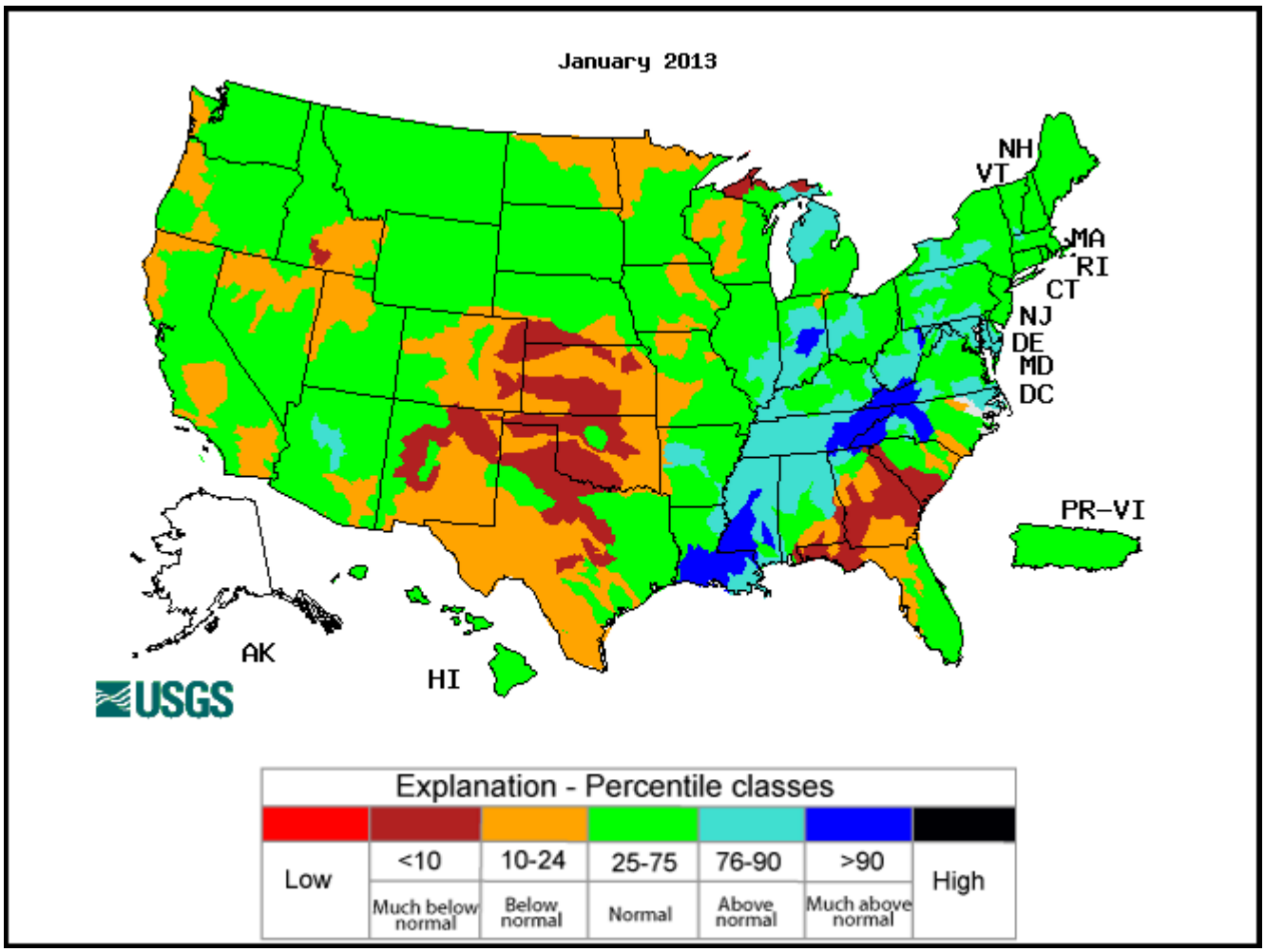


January 1st, 2013



January 28th

Streamflow:
The United States Geological Survey's (USGS) January 2013 river streamflow records were compared with all historical January streamflow records. Streamflow ranged from above to much above normal across the Hydrologic Service Area.



January 2013 Streamflow

River Conditions and flood potential:

January brought some of the most widespread river flooding to the HSA in quite a long time. All river forecast points in the Pearl River Basin exceeded flood stage except the Strong River at D'lo. Moderate flooding occurred on the Pearl River at Philadelphia while the remaining forecasts points had only minor flooding. The entire Big Black River and Homochitto System had minor flooding during the month. Heavy rainfall across the Yazoo Basin produced moderate flooding along the Upper Sunflower at Sunflower while the Lower Sunflower River had minor flooding. Minor flooding also occurred along the Yalobusha and the Lower Yazoo River. In the Pascagoula basin, minor flooding only occurred along the Tallahala Creek. Across Northeast Louisiana, minor flooding occurred at Tensas at Tendal and Boeuf River near Ft. Necessity. In the Tombigbee River System, minor flooding occurred along the Noxubee River, Tibbee Creek and Luxapallila Creek. All other river forecast points in the HSA had below flood stage minor to moderate rises. The Mississippi River continued to rise during the month of January. By the end of January, the river was well above seasonal norms. This is quite a difference from late summer and much of the fall when stages were near all time lows.

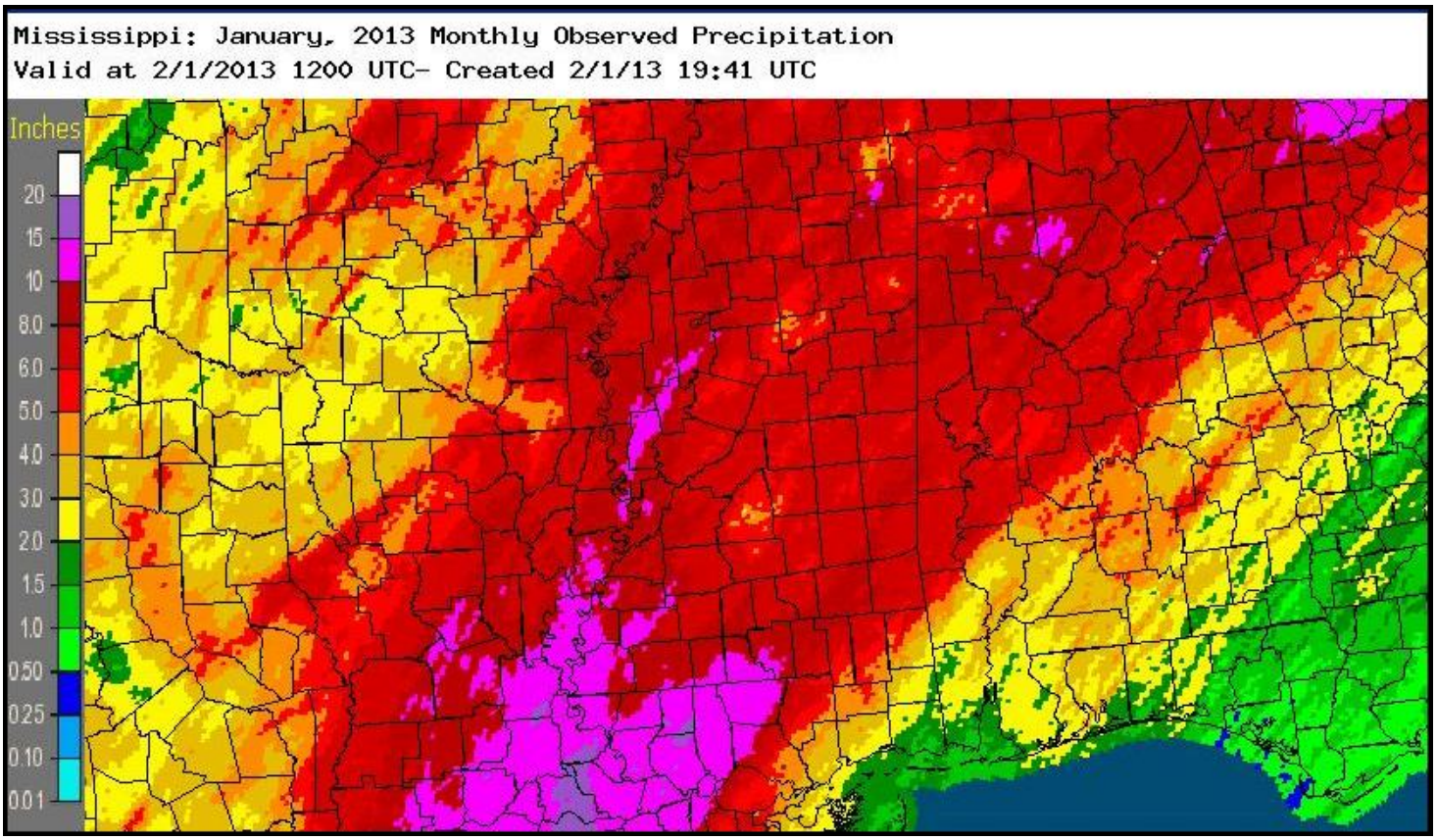
Temperatures are projected to be above normal across all of the HSA during the next 3 month. Rainfall from March thru May is expected to be below normal across southern portions of the HSA and equal chances of above or below normal rainfall elsewhere.

Based on current soil moisture, streamflow, and the 3 month weather outlooks, flood potentials are as follows:

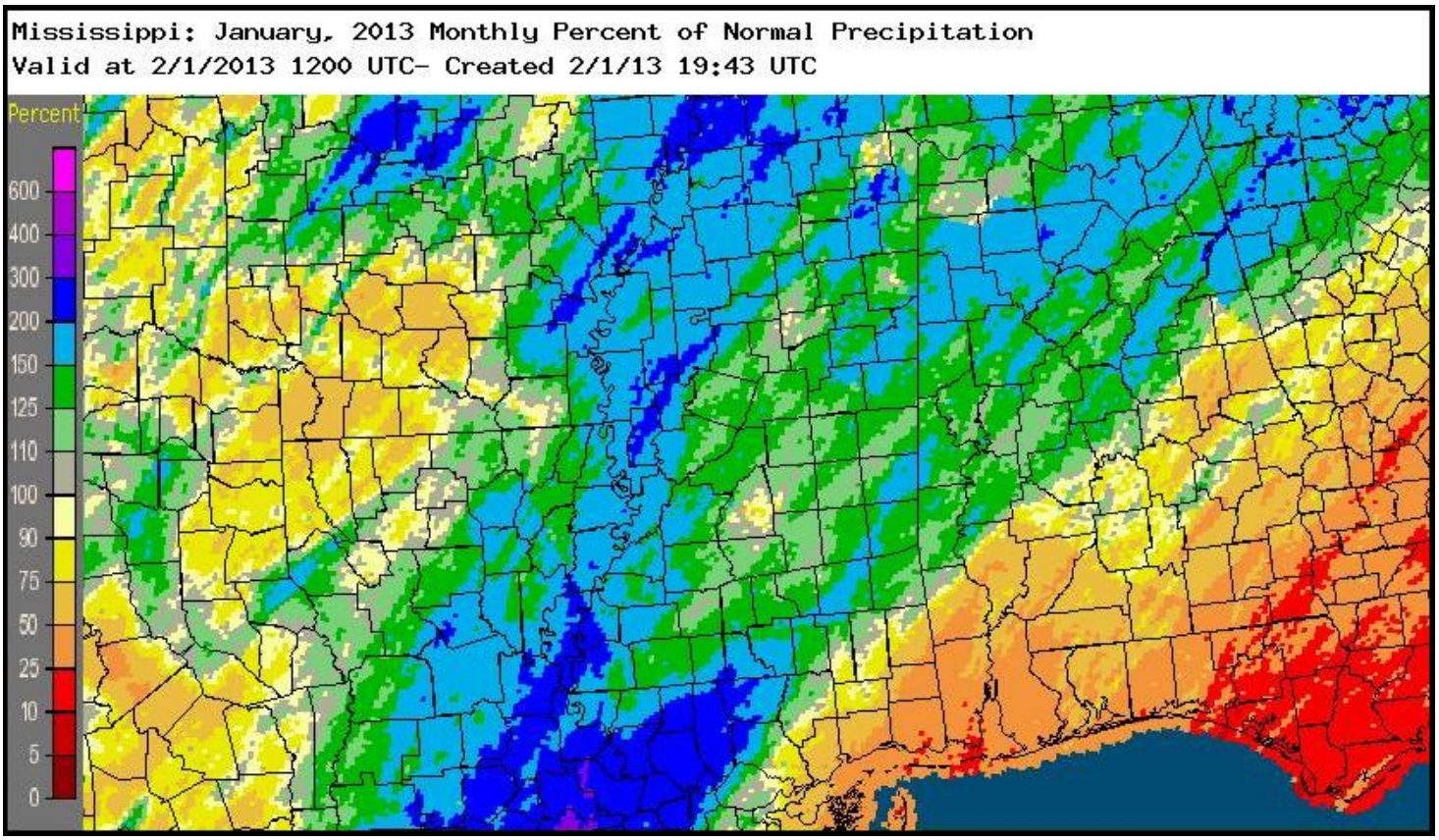
***Pearl River System*:**	**Above Average.**
***Yazoo River System*:**	**Above Average.**
***Big Black River System*:**	**Above Average.**
***Homochitto River System*:**	**Above Average.**
***Pascagoula River System*:**	**Above Average.**
***Northeast LA and Southeast AR*:**	**Above Average.**
***Tombigbee River System*:**	**Above Average.**
Mississippi River:	**Average.**

Rainfall for the month of January:

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on January 31st until 7 am on February 28th were: 15.43 inches at Winnsboro 2SE, LA; 15.30 inches at Natchez, MS; 14.76 inches at Rolling Fork, MS; 14.32 inches at Jonesville L&D, LA; 13.40 inches at Clayton, LA; 13.26 inches at St Joseph, LA; 13.21 inches at Meadville, MS; 12.99 inches at Port Gibson, MS; 12.79 inches at Vicksburg, MS; 12.47 inches at Tallulah, MS; 12.29 inches at Winnsboro 5SSE, LA; 12.31 inches at Lake Providence, LA; 12.28 inches at Belzoni, MS; 12.17 inches at Eudora, AR; 12.01 inches at Union Church, MS.



January 2012 Rainfall Estimates



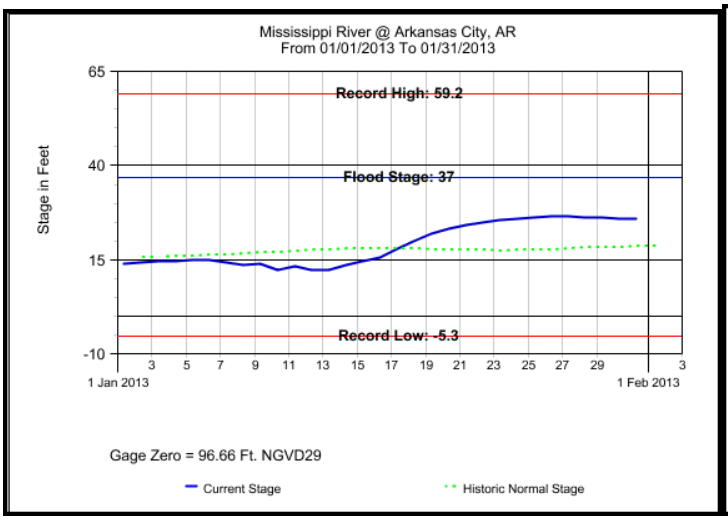
January 2013 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

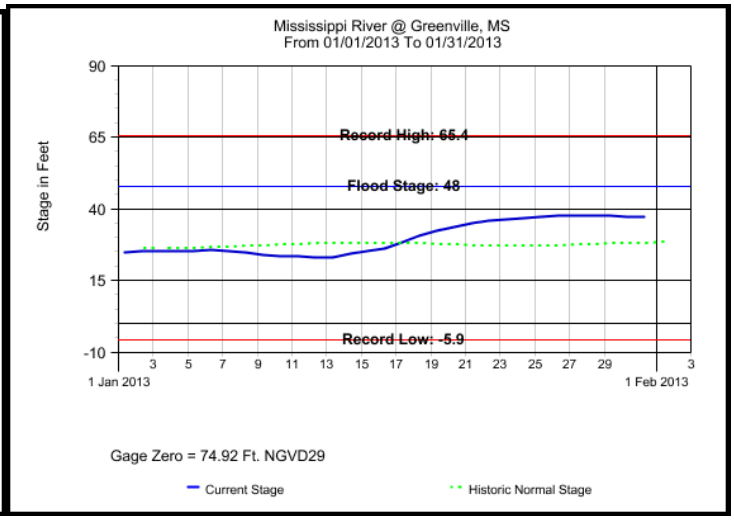
January rainfall for Selected Cities...

City (Airport)	January Rainfall	Departure from normal	2013 Rainfall	2013 Departure from Normal
Jackson, MS	8.58	+3.61	8.58	+3.61
Meridian, MS	9.76	+4.63	9.76	+4.63
Greenwood, MS	8.64	+4.12	8.64	+4.12
Greenville, MS	9.11	+4.14	9.11	+4.14
Hattiesburg, MS	7.93	+2.19	7.93	+2.19
Vicksburg, MS	13.28	+8.21	13.28	+8.21

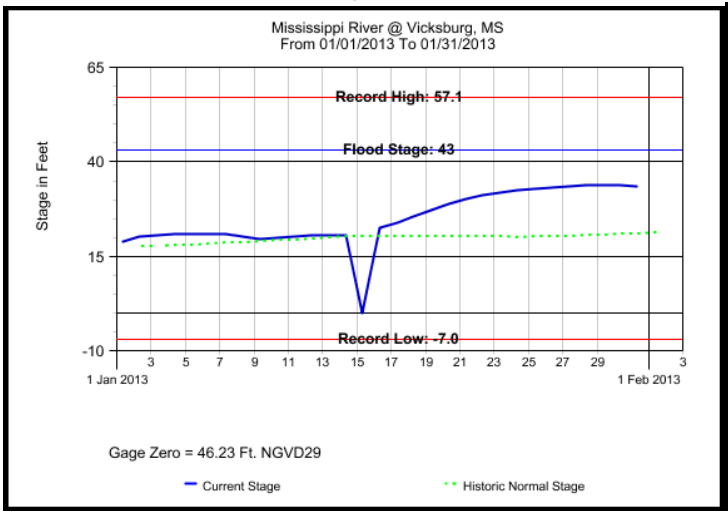
Mississippi River...
Mississippi River Plots for January, 2013
Plots Courtesy of the United States Army Corps of Engineers



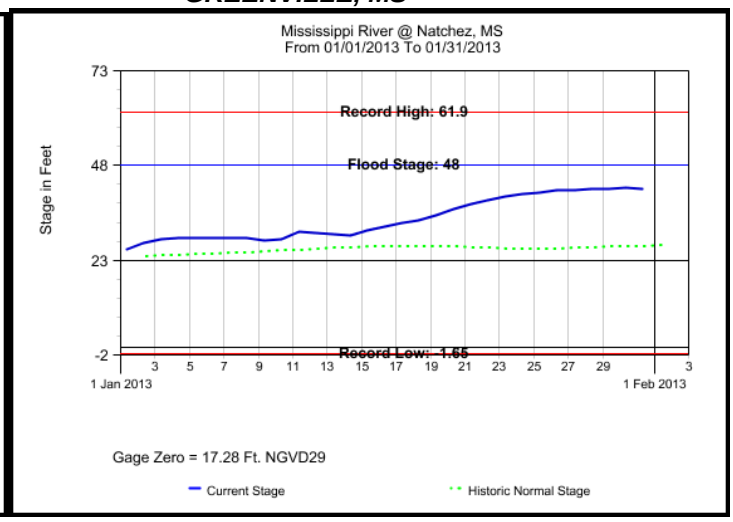
ARKANSAS CITY, AR



GREENVILLE, MS



VICKSBURG, MS



NATCHEZ, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	26.63	01/27/13	12.06	01/12/12
Greenville, MS	48	37.74	01/27/12	23.04	01/13/12
Vicksburg, MS	43	33.94	01/29/12	18.15	01/01/12
Natchez, MS	48	41.99	01/30/12	25.58	01/01/12

Total Flood Warning products issued: 40
Total Flood Statement products issued: 286
Total Flood Advisories MS River : 0
Daily Climate and Ag WX Products (AGO'S) issued: 31
Daily CoCoRaHS Rainfall Products (LCO'S) issued: 31
Daily River and Lake Summary Products (RVD'S) issued: 31

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Latrice Maxie
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Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District